

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018864**Date Inspected:** 23-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A). Pipe Supports
- B). Deck Access Holes
- C). Miscellaneous Task

A). Pipe Supports

The QAI continued observing the installation, field fit-up and tack welding of the pipe supports along the E5 grid line located on top side of the OBG's W7, W8 and W9 "A" deck. The QC inspection was performed by Mike Johnson utilizing the Welding Procedure Specification (WPS) identified as Fillet Murex to monitor the tack welding and to verify the welding parameters. The welding parameters were observed and recorded as 94 amps utilizing 2.4 mm electrodes with the welding performed in the 2F and 3F position. The tack welding was performed by Rick Kiikvee ID-5319 and David Garcia ID-8789.

B). Deck Access Holes

The QAI observed the welder, Darcel Jackson ID-9967, perform the Complete Joint Penetration (CJP) groove welding of the Lifting Lug Hole (LLH) identified as WN: 1W-PP9.5-W3-Weld No. 4 located along the grid line W3 of the OBG identified as W1. The welding was also performed utilizing the Shielded Metal Arc Welding

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(SMAW) process and the 3.2 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1110A, Rev. 1. The WPS was also utilized by the QC inspector, William Sherwood, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 127 amps. The welding was performed in the overhead (4G) position with the work placed in an approximately horizontal plane and the weld metal deposited from the underside.

The QAI also observed the welder, Mike Jiminez ID-4671, perform the Complete Joint Penetration (CJP) groove welding of the Lifting Lug Hole (LLH) identified as WN: 1W-PP9.5-W3-Weld No. 4 located along the grid line W3 of the OBG identified as W1. The welding was also performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.8 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1070, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 270 amps. The welding conducted during this shift was performed in the flat (1G) position with the in an approximately horizontal plane and the weld metal shall be deposited from the upper side.

Later in the shift, the QAI observed the welder Mike Jiminez had mobilized to weld no. 1 and commenced the welding on the LLH weld joint identified as WN: 1W-PP9.5-W4. The welding of the root pass was monitored by the QC inspector utilizing the WPS identified as ABF-WPS-D15-1070, Rev. 1 and the welding parameters were recorded as 275 amps. The weld inspection performed by the QC inspector appeared to comply with the contract documents. The welding was performed utilizing the SMAW process and the 4.8 mm, E7018 H4R electrode. The minimum preheat temperature of 65 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius were verified by the QC inspector. The welding was not completed during this shift.

C). Miscellaneous Task

This QAI also performed a review and update of the project progress utilizing QA field reports and NDT reports. The updated project information was documented into the various QA tracking logs.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW welding process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs on page 3 of this report illustrate the work observed during this scheduled shift.

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Summary of Conversations:

There were general conversations with Quality Control Inspector Bonifacio Daquinag, Jr. at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Mertz,Robert

QA Reviewer